What is claimed is:

1. A method for compacting a diffuse gray edge, comprising the steps of:

    identifying an observation window within continuous tone image data, said observation window including a target pixel;

    compacting horizontal features within said observation window;

    compacting vertical features within said observation window; and

    compacting corner features within said observation window.

2. The method according to **claim 1**, wherein said step of compacting horizontal features comprises:

    determining if said target pixel is within a diffuse horizontal edge;

    shifting gray from a first pixel (A) that is not adjacent to a saturated pixel to a second pixel (B) that is adjacent to a saturated pixel; and

    updating a pixel value in response to said shifting step.

3. The method of **claim 2** wherein said gray is shifted from said first pixel A to said second pixel B according to

$$B' = \min(255, B+A)$$

$$A' = A - [\min(255, B+A)] = A - B' + B$$

wherein A' and B' are the values of said first and second pixels after shifting gray.

4. The method according to **claim 3** wherein said step of updating a pixel value comprises providing a modified value for said target pixel.

5. The method according to **claim 4**, wherein said step of updating a pixel value modifies the values of pixels within said observation window.

6.   The method according to **claim 1**, wherein said step of compacting vertical features comprises:

    determining if said target pixel is within a diffuse vertical edge;

    shifting gray from a first pixel (A) that is not adjacent to a saturated pixel to a
        second pixel (B) that is adjacent to a saturated pixel; and

    updating a pixel value in response to said shifting step.

7.   The method of **claim 6** wherein said gray is shifted from said first pixel A to said second pixel B according to

$$B' = min(255, B+A)$$

$$A' = A-[min(255, B+A)] = A-B'+B$$

wherein A' and B' are the values of said first and second pixels after shifting gray.

8.   The method according to **claim 1**, wherein:

    said step of compacting horizontal features modifies said target pixel and a first
        pixel adjacent said target pixel by shifting gray between said target pixel and
        said first pixel when said target pixel is within a diffuse horizontal edge;

    said step of compacting vertical features modifies said target pixel and a second
        pixel adjacent said target pixel by shifting gray between said target pixel and
        said second pixel when said target pixel is within a diffuse vertical edge; and

    said step of compacting corner features modifies a pixel within said compaction
        window when said target pixel is within a diffuse corner.

9.   The method according to **claim 8**, wherein said step of compacting horizontal features and said step of compacting vertical features are performed before said step of compacting corner features.

10. The method according to **claim 1**, wherein said step of compacting corner features comprises:

determining if said target pixel is within a diffuse corner;

shifting gray from a first pixel (A) that is not adjacent to a saturated pixel to a

second pixel (B) that is adjacent to a saturated pixel; and

updating a pixel value in response to said shifting step.

11. The method of **claim 10** wherein said gray is shifted from said first pixel A to said second pixel B according to

$$B' = min(255, B+A)$$

$$A' = A-[min(255, B+A)] = A-B'+B$$

wherein A' and B' are the values of said first and second pixels after shifting gray.

12. The method of **claim 10** further comprising the step of shifting gray from a third pixel (C) to said second pixel B.

13. The method of **claim 12** wherein said gray is shifted from said third pixel C to said second pixel B according to

$$B'' = min(255, B'+C)$$

$$C' = C-[min(255, B'+C)] = C-B''+B'$$

wherein B'' and C' are the values of said second and third pixels after shifting gray.

14. The method of **claim 12** further comprising the step of shifting gray from a fourth pixel (D) to said second pixel B.

15. The method according to **claim 10**, wherein said step of updating a pixel value comprises providing a modified value for said target pixel.

16. The method according to **claim 10**, wherein said step of updating a pixel value modifies the values of pixels within said observation window.

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17. In a printing system having a digital front end for processing image data to generate print ready data, a method for compacting a diffuse gray edge, comprising the steps of:

       receiving continuous tone image data;

       identifying a target pixel within said received continuous tone image data;

       analyzing pixels neighboring said target pixel to determine if said target pixel is within a diffuse gray edge; and

       compacting gray pixels within said diffuse gray edge.

18. The method of **claim 17**, wherein said step of compacting gray pixels within said diffuse gray edge comprises:

       analyzing pixels neighboring said target pixel to determine if said target pixel is within a diffuse horizontal edge;

       analyzing pixels neighboring said target pixel to determine if said target pixel is within a diffuse vertical edge; and

       analyzing pixels neighboring said target pixel to determine if said target pixel is within a diffuse corner.

19. The method of **claim 17**, wherein said step of compacting gray pixels within said diffuse gray edge comprises:

       shifting gray between pixels within a diffuse horizontal edge in response to a first edge condition;

       shifting gray between pixels within a diffuse vertical edge in response to a second condition; and

       shifting gray between pixels within a diffuse corner in response to a third condition.

20. The method of claim 19, wherein:

said step of shifting gray between pixels within a diffuse horizontal edge comprises shifting gray from a first pixel that is not adjacent to a saturated pixel to a second pixel that is adjacent to a saturated pixel;

said step of shifting gray between pixels within a diffuse vertical edge comprises shifting gray from a pixel that is not adjacent to a saturated pixel to a second pixel that is adjacent to a saturated pixel; and

said step of shifting gray between pixels within a diffuse corner comprises shifting gray from a pixel that is not adjacent to a saturated pixel to a second pixel that is adjacent to a saturated pixel.